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PATENT ABSTRACTS OF JAPAN(21) Application number: **10053623**(51) Intl. Cl.: **C23C 16/52 C23C 16/44 C23C 16/46 G01B 11/06 H01L 21/205**(22) Application date: **05.03.98**

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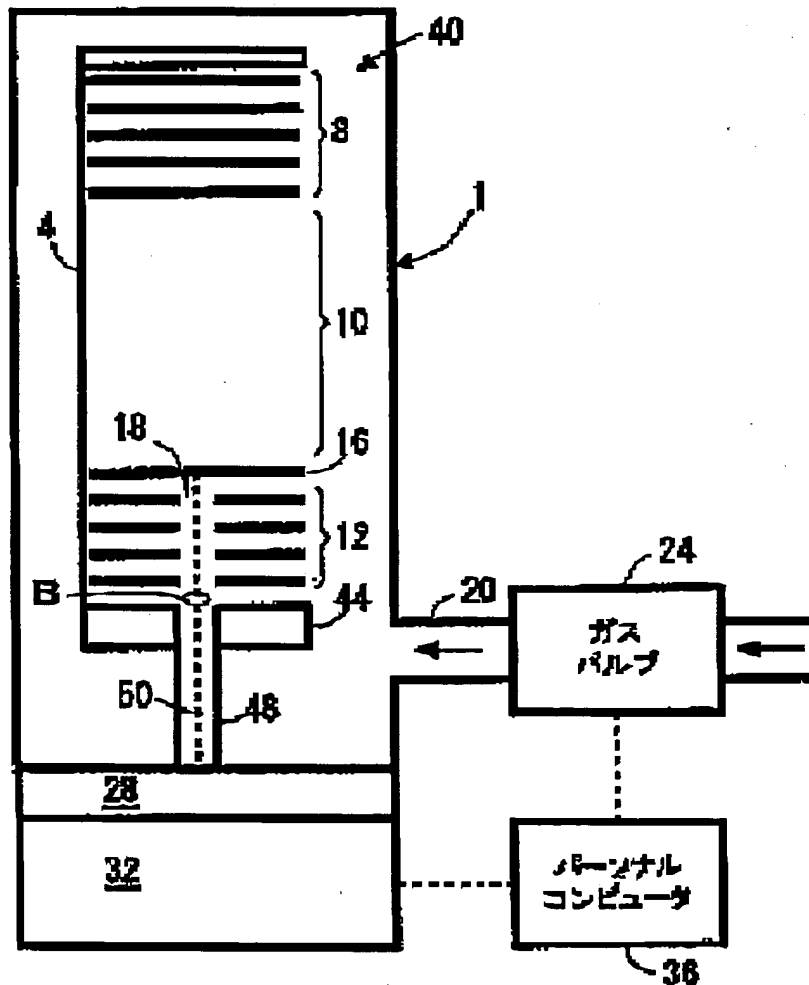
(74) Representative:

**(54) FILM DEPOSITION
DEVICE FOR
MEASURING FILM
THICKNESS IN-SITU IN
FILM FORMING
PROCESS AND ITS
METHOD**

(57) Abstract:

PROBLEM TO BE SOLVED:
To provide a film deposition device correctly measuring the change in film thickness by laser beam in-situ in the process of a film forming process of a wafer by a CVD method without being influenced by a deposited film at the inside of a quartz furnace.

SOLUTION: The cap part 28 of a quartz furnace 1 in a CVD device is provided with a light guide, a laser beam 50 is introduced into the quartz furnace through the light guide, and a wafer is irradiated with the laser



beam. Reflected laser beam from the wafer is taken out to the outside of the quartz furnace through the same light guide, and the change of the film thickness is measured based on the quantity of the reflected laser beam. In this way, the laser beam can be transmitted without passing through the wall of the quartz furnace, and the measurement of film thickness can correctly be executed without being influenced by deposits on the wall face of the quartz furnace.

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